

Title (en)
APPARATUS FOR RESTORING OPERATION OF INK JET PRINTING NOZZLES

Publication
EP 0259193 B1 19910123 (EN)

Application
EP 87307880 A 19870907

Priority
IT 6769186 A 19860905

Abstract (en)
[origin: EP0259193A1] The apparatus makes it possible to restore operation of the nozzles (21) of a print head (12) by removing blockages and eliminating any bubbles of air or gases which may have formed in the ink jet printing elements of a dot printer. In the ink jet printing elements of the self-cancelling type in which the parasitic oscillations in the pressure of the ink are damped by the control circuit (118) itself, blockages and air bubbles are eliminated by means of the control circuit (118) which is caused to operate at a higher frequency than that used for the printing operation, under control of a microprocessor (120), electronic selector switch (124) and frequency generator (122). This is effected simultaneously with the application of a suction effect on the ink in the nozzles. The suction effect is produced by means of a suction pump (38) connected to a resilient cup (34) fitted in front of the nozzles in a parking position of the head (12) beyond the platen. Shortly before the cup is withdrawn from the nozzles, the depression is nullified by opening a vent (89) to ensure that the suction does not cause the ink to escape. A rubber disc adjacent the platen roller is provided for cleaning the printing elements, which wipe across the edge of the disc as the head (12) moves back in front of the platen.

IPC 1-7
B41J 2/165

IPC 8 full level
B41J 2/02 (2006.01); **B41J 2/18** (2006.01); **B41J 2/165** (2006.01); **B41J 2/175** (2006.01); **B41J 2/185** (2006.01); **B41J 2/19** (2006.01)

CPC (source: EP US)
B41J 2/1652 (2013.01 - EP US); **B41J 2/19** (2013.01 - EP US)

Cited by
CN1087228C; EP0764531A3; EP0580437A3; US5670997A; EP0707968A1; EP0451827A3; US5185615A; EP0657290A1; EP0471374A3; US5289207A; AU649259B2; US6505915B2; US6663230B2

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 0259193 A1 19880309; EP 0259193 B1 19910123; DE 3767614 D1 19910228; IT 1195151 B 19881012; IT 8667691 A0 19860905; IT 8667691 A1 19880305; JP S63107561 A 19880512; US 4800403 A 19890124

DOCDB simple family (application)
EP 87307880 A 19870907; DE 3767614 T 19870907; IT 6769186 A 19860905; JP 21497787 A 19870828; US 8830387 A 19870824